

IN THE CLAIMS:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Currently Amended) ~~The~~ A method of claim 1 allowing a packet-switched telephony subscriber to roam within a packet-switched telephony network comprising:
_____ sending a message from a subscriber terminal to a visited function in a packet-switched telephony network, the message including a subscriber identification for the subscriber;
_____ the visited function sending a message to the subscriber's packet-switched telephony network home function, the message providing a packet-switched telephony network address of the visited function as updated subscriber location information and the subscriber identification; and
_____ the home function storing the network address of the visited function as location information for the subscriber,
wherein the packet-switched telephony network address of the serving visited function comprises an Asynchronous Transfer Mode (ATM) address.
5. (Cancelled)
6. (Cancelled)
7. (Currently Amended) ~~The~~ A method of claim 6 and further call delivery to a packet-switched telephony subscriber that is roaming within a packet-switched telephony network

comprising:

receiving a packet-switched telephony call at a packet-switched telephony home function from a calling entity, the call including a subscriber identification identifying the called subscriber;

the home function identifying subscriber location information including a packet-switched telephony network address of a visited function corresponding to the subscriber identification;

the home function providing the address of the visited function to the calling entity;

establishing a packet-switched telephony call from the calling entity towards the address of the visited function; and

~~the step of~~ the home function communicating with the visited function to determine that the called subscriber can receive the call prior to providing the visited function address to the calling entity.

8. (Currently Amended) ~~The A~~ method of claim 6 and further call delivery to a packet-switched telephony subscriber that is roaming within a packet-switched telephony network comprising:

receiving a packet-switched telephony call at a packet-switched telephony home function from a calling entity, the call including a subscriber identification identifying the called subscriber;

the home function identifying subscriber location information including a packet-switched telephony network address of a visited function corresponding to the subscriber identification;

the home function providing the address of the visited function to the calling entity;

establishing a packet-switched telephony call from the calling entity towards the address of the visited function;

~~the steps of:~~ the home function communicating with the visited function to determine if the called subscriber can receive the call; and

providing the visited function address to the calling entity only if the called subscriber can receive the call; and

otherwise, if the called subscriber is unable to receive the call, the home function returning an address corresponding to the subscriber where the calling entity may leave a voice message for the called subscriber.

9. (Cancelled)

10. (Currently Amended) ~~The A method of claim 9 wherein the step of call delivery to a packet-switched telephony subscriber that is roaming within a packet-switched telephony network comprising:~~

receiving a packet-switched telephony call at a packet-switched telephony home function from a calling entity, the call including a subscriber identification identifying the called subscriber;

the home function identifying subscriber location information including a packet-switched telephony network address of a visited function corresponding to the subscriber identification;

the home function providing the address of the visited function to the calling entity;

establishing a packet-switched telephony call from the calling entity towards the address of the visited function; and

forwarding the call from the visited function to the called subscriber, including the step of forwarding the call as a packet-switched telephony call to the called subscriber.

11. (Currently Amended) ~~The A method of claim 9 wherein the step of call delivery to a packet-switched telephony subscriber that is roaming within a packet-switched telephony network comprising:~~

receiving a packet-switched telephony call at a packet-switched telephony home function from a calling entity, the call including a subscriber identification identifying the

called subscriber;

the home function identifying subscriber location information including a packet-switched telephony network address of a visited function corresponding to the subscriber identification;

the home function providing the address of the visited function to the calling entity;

establishing a packet-switched telephony call from the calling entity towards the address of the visited function; and

forwarding the call from the visited function to the called subscriber, which comprises the steps of:

translating the packet-switched telephony call received at the visited function to a format used by the subscriber terminal that is incompatible with packet-switched telephony;

forwarding the translated call from the visited function to the called subscriber terminal.

12. (Currently Amended) ~~The~~ A method of claim 6 call delivery to a packet-switched telephony subscriber that is roaming within a packet-switched telephony network comprising:

receiving a packet-switched telephony call at a packet-switched telephony home function from a calling entity, the call including a subscriber identification identifying the called subscriber;

the home function identifying subscriber location information including a packet-switched telephony network address of a visited function corresponding to the subscriber identification;

the home function providing the address of the visited function to the calling entity;
and

establishing a packet-switched telephony call from the calling entity towards the address of the visited function,

wherein the visited function is provided on the called subscriber terminal.

13. (Currently Amended) ~~The~~ A method of claim 6 call delivery to a packet-switched telephony subscriber that is roaming within a packet-switched telephony network comprising:

receiving a packet-switched telephony call at a packet-switched telephony home function from a calling entity, the call including a subscriber identification identifying the called subscriber;

the home function identifying subscriber location information including a packet-switched telephony network address of a visited function corresponding to the subscriber identification; and

the home function providing the address of the visited function to the calling entity; and

establishing a packet-switched telephony call from the calling entity towards the address of the visited function,

wherein said step of establishing comprises the steps of:

sending call control signaling between the calling entity and the visited function to set up the packet-switched telephony call; and

sending the media of the packet-switched telephony call directly from the calling entity to the visited function.

14. (Original) The method of claim 13 wherein said step of sending call control signaling comprises sending call control signaling directly between the calling entity and the visited function to set up the packet-switched telephony call.

15. (Original) The method of claim 13 wherein said step of sending call control signaling comprises sending call control signaling between the calling entity and the visited function through the home function to set up the packet-switched telephony call.

16. (Original) The method of claim 13 wherein one address at the visited function is

used for call control signaling and media for the call.

17. (Original) The method of claim 13 wherein a first address at the visited function is used for call control signaling to set the call up and a second address at the visited function is used for media of the call.

18. (Original) The method of claim 17 wherein the second address at the visited function used for call media is negotiated by the calling entity and visited function using the call control signaling during call setup.

19. (Original) A method of call delivery within a mobile Packet-switched telephony network comprising:

receiving a PSTN call at a gateway function, the call including a subscriber identification of the called subscriber;

the gateway function obtaining from the subscriber's packet-switched telephony home function subscriber location information for the called subscriber, the subscriber location information including an address of a visited function corresponding to the subscriber identification; and

establishing a packet-switched telephony call from the gateway function towards the address of the visited function.

20. (Original) The method of claim 19 wherein said step of obtaining comprises the steps of:

sending an address request message including the called subscriber's subscriber identification from the gateway function to the called subscriber's home function in the packet-switched telephony network;

the home function identifying subscriber location information including an address of a visited function corresponding to the subscriber identification; and

receiving a message at the gateway function from the subscriber's home function including the address of the visited function corresponding to the subscriber identification.

21. (Original) The method of claim 20 and further comprising the step of the home function communicating with the visited function to determine that the called subscriber can receive the call prior to the gateway function receiving the message including the visited function address.

22. (Original) The method of claim 19 and further comprising the step of forwarding the call from the visited function to the called subscriber.

23. (Original) The method of claim 22 wherein the step of forwarding the call from the visited function to the called subscriber includes the step of forwarding the call as a packet-switched telephony call to the called subscriber.

24. (Original) The method of claim 22 wherein the step of forwarding the call from the visited function to the called subscriber comprises the steps of:

translating the packet-switched telephony call received at the visited function to a format used by the subscriber terminal that is incompatible with packet-switched telephony;

forwarding the translated call from the visited function to the called subscriber terminal.

25. (Original) The method of claim 19 wherein the visited function is provided on the called subscriber terminal.

26. (Original) The method of claim 19 wherein said step of establishing comprises the steps of:

sending call control signaling between the gateway function and the visited function to

set up the packet-switched telephony call; and

 sending the media of the packet-switched telephony call directly from the gateway function to the visited function.

27. (Original) The method of claim 26 wherein said step of sending call control signaling comprises sending call control signaling directly between the gateway function and the visited function to set up the packet-switched telephony call.

28. (Original) The method of claim 26 wherein said step of sending call control signaling comprises sending call control signaling between the gateway function and the visited function through the home function to set up the packet-switched telephony call.

29. (Original) A packet-switched telephony network that supports mobility comprising:

 a home function including a home function database storing current location information and a subscriber profile for one or more subscribers; and

 one or more visited functions, each visited function serving an area of the packet-switched telephony network, each visited function providing the visited function address to the home function in response to receiving a subscriber registration request, the home function storing the address of the visited function as updated subscriber location information.

30. (Original) The packet-switched telephony network of claim 29 further comprising a subscriber terminal coupled to a visited function, the subscriber terminal providing a registration request or update location message including a subscriber identification to the visited function.

31. (Original) The packet-switched telephony network of claim 30 wherein said subscriber terminal is coupled to the visited function via a wireline link.

32. (Original) The packet-switched telephony network of claim 30 wherein said subscriber terminal is coupled to the visited function via a wireless link.
33. (Original) The packet-switched telephony network of claim 31 wherein said subscriber terminal is coupled to the visited function via a cellular link.
34. (Original) The packet-switched telephony network of claim 30 wherein said subscriber terminal is coupled to the visited function via a packet switched network.
35. (Original) The packet-switched telephony network of claim 29 wherein at least one of said visited functions comprises an access gateway for interworking or translating between packet-switched telephony messages and messages sent between a subscriber terminal that accesses the visited function using an access technique that is incompatible with the packet-switched telephony network.